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The Economic Impact of the Canadian Homeownership Stimulation Plan and the Canada Home Renovation Plan

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ABSTRACT

In this study, The Conference Board of Canada used its Medium-Term Forecasting Model to examine the separate economic impacts of the Canadian Homeownership Stimulation Plan (CHOSP) and the Canada Home Renovation Plan (CHRP). Particular attention was paid to each program's impact on employment, interest rates, the federal government balance and activity in the construction industry.

The report contains estimates of the net cost per job created, over both the short and longer run, and an assessment of each program's direct, indirect and induced effects on the Canadian economy. All results are based on Canada Mortgage and Housing Corporation estimates of program expenditures and their first-round impact on the housing sector.

Over the short run, the study indicated that CHOSP had a substantial positive impact on total employment at a very reasonable net cost per job. CHRP, on the other hand, appears to have had only a modest impact on employment. Consequently, its short-run cost per job was relatively high. Over the medium term, the inability of either program to maintain a positive employment impact contributes to a marked deterioration in the cost effectiveness of both CHOSP and CHRP. In the case of CHOSP, this assessment appears to be critically tied to the degree to which the introduction of the program served to push up Canadian interest rates.

This study was conducted by Dana Oikawa of the Conference Board's National Forecasting and Analysis Group. It was undertaken for and funded by Canada Mortgage and Housing Corporation.

EXECUTIVE SUMMARY

The Canadian Homeownership Stimulation Plan (CHOSP) and the Canada Home Renovation Plan (CHRP) had, as their major objective, the creation of new jobs in the construction industry and related businesses. Analysis by The Conference Board of Canada, using estimates of direct housing sector impacts provided by Canada Mortgage and Housing Corporation, indicates that CHOSP generated upwards of 67,000 person-years of additional employment through the economically lean years of 1982 and 1983 (see Table 1). Over the same period, CHRP, with its relatively small first-round impact on overall residential construction expenditures, appears to have produced a more modest 6,000 person-years of employment, with very little of it occurring in the construction industry. Given the temporary nature of the programs, neither CHOSP nor CHRP were able to maintain their positive impact on employment over the medium term.

Over the short run, CHOSP's employment impact appears to have been so strong that its net cost per additional job, measured in current dollars, fell below $5,000 (see Table 1). This was not to last, however. Program payments soon grew sufficiently large to impart a substantial negative impact on the federal government balance. The ensuing increase in Canadian interest rates appears to have triggered a cycle of ever higher debt charges, leading to ever larger deficits, resulting in continued pressure on interest rates. Over the medium term, these higher rates not only produced a rapid escalation in the overall cost of the program, but also a sufficiently large negative impact on interest-sensitive expenditures to more than offset the program's short-run benefits.

As noted above, CHRP possessed none of the short-run punch exhibited by CHOSP. As such, its net cost per job appears to have been above $24,000 over the 1982-1983 period. While CHRP's benefits were small, the modest nature of the program helped it to avoid, to a large extent, the dramatic escalation in medium-term costs associated with CHOSP. With its smaller program payments largely offset by program-induced revenue gains and declines in unemployment insurance benefits, CHRP's adverse impact on the federal balance, interest rates and public debt charges was negligible. Nevertheless, the continued weakness of the program's employment impact saw its cost effectiveness deteriorate substantially over the medium term.

These results were obtained from an analysis which allowed Canadian interest rates to respond freely to the increased borrowing requirements of the federal government. Given the extent to which domestic interest rates are administered, it is reasonable to question whether the introduction of any such program would actually cause interest rates to rise.

In an extension to our initial analysis, short-term interest rates were assumed to be unaffected by the introduction of the programs. The results (see Table 14) show a dramatic improvement in the overall assessment of CHOSP.

Unimpeded by the weight of higher interest rates, the program's second-round impacts continue to generate a substantial number of jobs through 1984. At the same time, CHOSP's now negligible effect on federal debt charges greatly diminishes the net costs associated with the program. Thus, holding interest rates constant, CHOSP's overall costs per additional job-year measure an extremely low $1,300, in the short run, and a still very acceptable $4,800, over the medium term.

INTRODUCTION

The purpose of this report is to describe and present the results of a Conference Board analysis* of the separate economic impacts of the Canadian Homeownership Stimulation Plan (CHOSP) and the Canada Home Renovation Plan (CHRP). The results were drawn from the Conference Board's Medium-Term Forecasting Model (MTFM) using data provided by Canada Mortgage and Housing Corporation (CMHC).

At the time these programs were introduced in 1982, the Canadian economy was in the midst of its worst recession since the 1930's (see Table 5). Both inflation and the unemployment rate were at double-digit levels, while interest rates soared into the high teens. While the entire domestic economy was languishing, the housing sector was particularly hard hit by the combination of falling incomes and record-high interest rates. This report will attempt to outline the extent to which CHOSP and CHRP contributed to the subsequent recovery.

The report will be divided into five sections. The first of these will present and describe much of the data used to produce our simulation results. The simulation process itself will be outlined in the second section. The third and fourth sections will present the unconstrained economic impacts of CHOSP and CHRP, respectively. And finally, in an extension to our initial

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* The analysis was conducted by Dana Oikawa, a senior economist in the Conference Board's National Forecasting and Analysis Group. Critical comment and helpful suggestions were provided by Anselm London, Mostafa Askari and Brian Hollohan of the National Forecasting and Analysis Group, John Cady of the New Product Development Group and Jim Frank, Chief Economist.

analysis, the fifth section will re-examine the program impacts while holding interest rates constant.

As described in the second section, our simulation results are derived by noting the separate impacts of removing CHOSP and CHRP from observed history. Accordingly, the discussion in the first two sections will reflect this negative approach. However, to avoid the awkwardness of describing what would have happened had CHOSP and CHRP not been introduced, the discussion of program impacts in the third, fourth and fifth sections will be presented in terms of what did happen because they were. Put more simply, the signs of our estimated impacts will be reversed in the last three sections of this report. It is hoped that this word of caution will eliminate any confusion in reading from one section to another.

To further clarify matters, it may be useful here to provide a word or two on terminology and units of measurement. Throughout this report, the overall employment impact of both programs will be expressed in terms of additional person-years of employment. This estimate includes both full- and part-time workers. To allow for some variation in exposition, the terms "jobs" or "job-years" will be used interchangeably with "person-years of employment".

A program's cost effectiveness in creating jobs will be measured in two ways. First, a program's direct cost per additional job will include all of its program expenditures, including administration costs. A much broader measure, and the one most commonly referred to here, is net costs per job. It includes a program's estimated impact on all federal government revenue and expenditure items, including direct program costs.

With regard to units of measurement, all dollar estimates will be stated in current dollars, unless explicitly represented on a 1981 basis. Thus, estimated impacts on all government revenue and expenditure items, together with all estimates of costs per job, are expressed in current dollars. Program impacts on residential construction and consumption expenditures are represented in 1981 dollars.

Lastly, this report has used, as its point of reference, a study by Dr. Arun S. Roy of Employment and Immigration Canada (CEIC)**. Among other things, the CEIC study provided estimates of net costs per additional person-year of employment for numerous job creation options available to the federal government. To place our estimates in context, the most cost-effective option examined in the CEIC study saw a current dollar increase of $1 billion in federal expenditures in the non-commercial service sector generate a total of 79,000 job-years (both full- and part-time) from 1983 to 1987. It did so at a net cost of $11,000 per person-year. By contrast, the least effective job-creation initiative, a $1 billion cut in corporate income taxes, generated 11,000 person-years of work at a net cost of $77,000 per job.

** Roy, Arun S., A Preliminary Report on Employment Impacts: Study of Employment Impacts of Alternative Government Initiatives and Related Evaluation Criteria (Labour Market Studies Division, Department of Employment and Immigration, January 1984).

DATA AND DATA PREPARATION

The results of this study were generated by the Conference Board's model of the Canadian economy using data supplied by CMHC. Included in this data were estimates of program expenditures and their direct impact on housing activity and related expenditures (see Table 2). Although most of these first-round impacts are positive in sign, the nature of our study leads us to subtract these effects from historical values.

CMHC also provided information on how these impacts were to be distributed over time (see Table 3). As the quarterly data employed by the Conference Board's Medium-Term Forecasting Model (MTFM) is both seasonally-adjusted and at annual rates, CMHC's distributive weights were converted to this basis. In doing so, it was implicitly assumed that program payments and activities exhibited the same pattern of seasonality found in the corresponding categories of non-program-related activities.

Seasonal factors drawn from the National Accounts' various components of residential construction expenditures -- new construction, alterations and improvements, and transfer costs -- were used. The new construction completion month profile was adjusted using the seasonal factor for new construction expenditures. The existing housing occupation month profile was adjusted with the seasonal factor for transfer costs. The CHRP cheque dates profile was adjusted using the alterations and improvements seasonal factor. A weighted average of the new construction and transfer costs factors was used to adjust the CHOSP cheque dates profile. Although it is not deemed to be a problem, it should be noted that the annual average for these seasonal factors deviated from 1 by as much as 1.7 per cent in some of the years under study.

The use of these factors could then have inflated or deflated CMHC's expenditure estimates for any given year by up to that amount.

Given the requirement to examine the economic impacts of CHOSP and CHRP separately, two data bases were constructed.

In the CHOSP data base, the seasonally-adjusted profile of CHOSP cheque dates was used to allocate CHOSP program expenditures by quarter. The resulting series of quarterly constant-dollar expenses was then converted to current dollars, using the Consumer Price Index, and incorporated in the identity for federal capital assistance payments (for which the Conference Board mnemonic is GCASF) as a new variable (GCAHOSF).

Similarly, the adjusted new construction completion month profile was used to distribute estimates of program-induced expenditures on new housing legal fees and new house purchases of durable goods. The completion month profile was then advanced by one quarter to produce a new construction start month profile. This was used to allocate the estimated CHOSP impact on new housing construction expenditures and ownership housing starts.

In accordance with CMHC estimates, 85 per cent of the ownership housing starts impact was considered to involve single-detached houses. These were treated as single starts while the remainder were deducted from multiples. This negative impact on ownership multiples was then partially offset by a higher level of rental starts. In the absence of CHOSP, CMHC estimates that 120 additional rental units would have been built from the 3rd quarter of 1982 to the 2nd quarter of 1983, with a more substantial 1,600 units added during the following 4-quarter period.

Lastly, CHOSP-induced existing housing expenditures, i.e. real estate

commissions, legal fees and purchases of consumer durables were distributed using the existing housing occupation month profile.

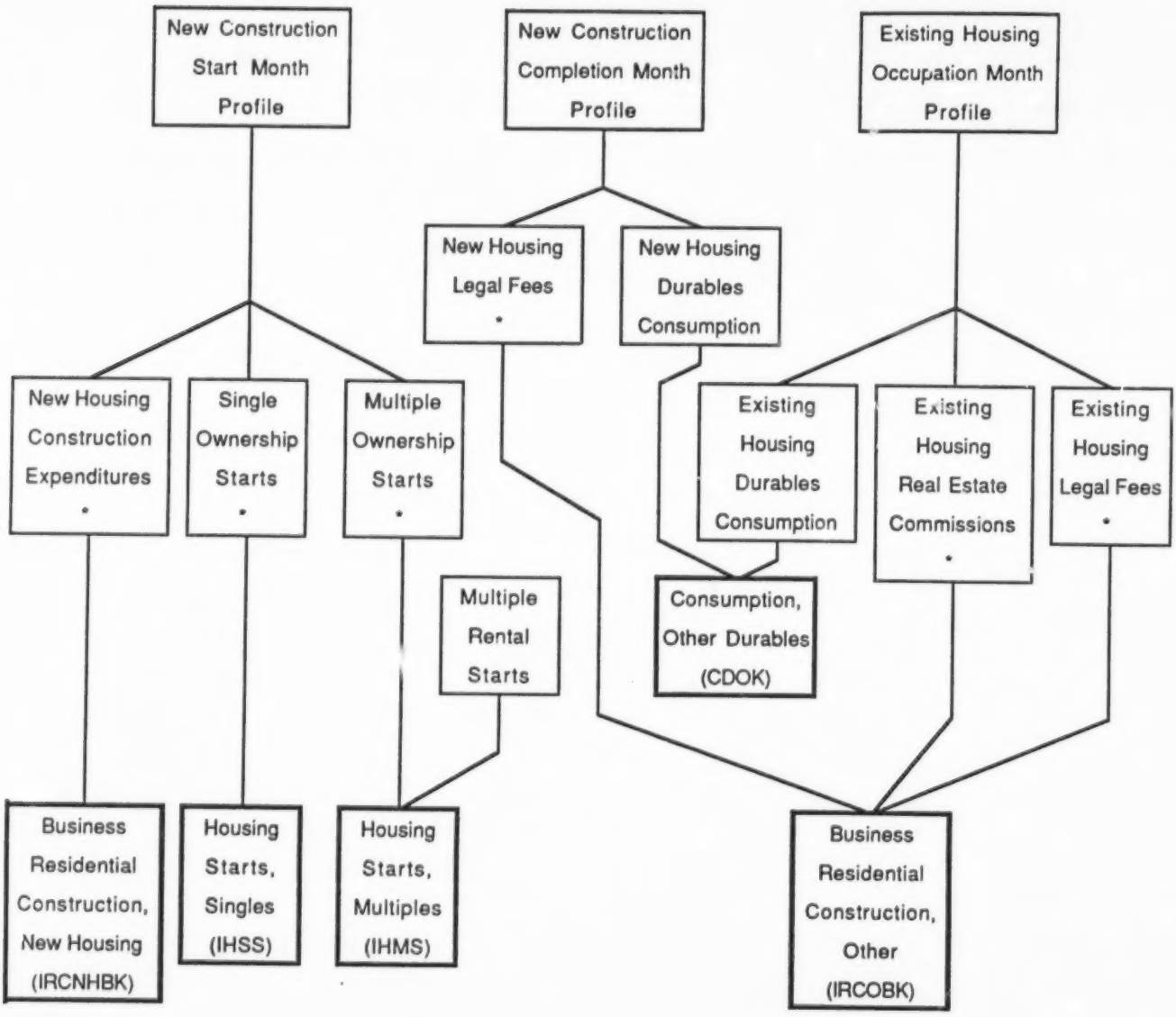
As both CHOSP and CHRP acted, in large measure, by moving forward expenditures and activity that would have occurred at a later date, large portions of many of the programs' impacts must be balanced by a delayed offsetting effect. CMHC's estimate of the magnitude of these timing effects is indicated by the difference between total and permanent effects in Table 2. In an exercise designed to capture the immediate impacts of CHOSP & CHRP by removing them, these offsetting effects must be added to historical values.

In the case of CHOSP, CMHC has estimated that the duration of these effects, or the period from which expenditures were moved forward, is two years starting from the termination of a program provision. Thus, the timing effects on existing housing transfer costs begin in the 1st quarter of 1983, while those associated with new housing starts and construction costs start two quarters later. Given the association of new housing legal fees with completion dates, its timing effect is delayed until the 4th quarter of 1983. In all cases, 75 per cent of the effect is assumed to fall in the first 4 quarters (see Table 4 for the quarterly distribution of this effect).

The complex combinations of new housing impacts with existing housing impacts, and total effects with timing effects, used to derive many of CHOSP's first-round model impacts can best be presented in a chart (see Chart 1). Aside from federal capital assistance payments, the affected MTFM variables are: single housing starts (IHSS), multiple housing starts (IHMS), residential construction expenditures on new housing (IRCNHBK), other residential construction expenditures (IRCOBK) and consumption of other durables (CDOK).

Chart 1

CHOSP Data Preparation


New Construction Start Month Profile
New Construction Completion Month Profile
Existing Housing Occupation Month Profile
New Housing Legal Fees *
New Housing Durables Consumption
New Housing Construction Expenditures *
Single Ownership Starts *
Multiple Ownership Starts *
Existing Housing Durables Consumption
Existing Housing Real Estate Commissions *
Existing Housing Legal Fees *
Multiple Rental Starts
Consumption, Other Durables (CDOK)
Business Residential Construction, New Housing (IRCNHBK)
Housing Starts, Singles (IHSS)
Housing Starts, Multiples (IHMS)
Business Residential Construction, Other (IRCOBK)

Notes: * The initial program impact on these variables was partially offset by a delayed timing effect.

- CMHC provided estimates of CHOSP's first-round impact on these variables and the activity profiles used to distribute them by quarter.

- CMHC's estimated first-round effects were used to calculate corresponding impacts on these MTFM variables.

The CHRP data base is much simpler in construction. The seasonally-adjusted profile of CHRP cheque dates was used to allocate CHRP program expenditures and their associated renovation and durable goods expenditures. As in the case of CHOSP program expenditures, the resulting series of CHRP constant-dollar payments was converted to current dollars and included in the identity for federal capital assistance payments as a new variable (GCAHRF).

CHRP-induced renovation expenditures were also deemed to be largely drawn from subsequent periods. In this instance, the offsetting timing effect was assumed to extend over a 6-quarter period starting in the 4th quarter of 1983. Eighty-five per cent of the effect was applied to the first 4 quarters (see Table 4 for the quarterly distribution).

The total impact on renovation expenditures and the associated change in durable goods consumption were then taken as first-round impacts on the MTFM variables for other residential construction expenditures and consumption of other durables, respectively.

SIMULATION PROCESS

The assessment of the separate economic impacts of CHOSP and CHRP requires the successive comparison of two sets of simulation results. The Conference Board's MTFM was first used to produce a base case, or control solution, which reproduced the observed course of the economy following the introduction of the two programs. Next, alternative scenarios, or shock solutions, were produced reflecting plausible economic outcomes in the absence of first one, and then the other program. The process was concluded by a series of simulations designed to isolate the direct, indirect and induced effects of CHOSP and CHRP.

i) The Base Case

Turning to the base case, the need to track recorded history was considered to be an important requirement. In addition to providing the ensuing alternative scenarios with a more meaningful interpretation in isolation from the base case, it also has a bearing on their observed changes relative to the base case. Given the non-linearities in the model's and, indeed, the economy's response to shocks, the magnitude of a given response may be critically dependant on the level from which the response is made. In this instance, the depth of the recession, double-digit inflation rates and record-high interest rates may all have a substantial bearing on the tone of our shock-minus-control results.

Our investigation was limited to a 5-year time horizon, with all simulations starting in the 2nd quarter of 1982 and ending in the 4th quarter of 1986. Solution values from the Conference Board's August 1986 national

forecast were used to extend historical data. These forecast values start in the 2nd quarter of 1986.

Drawing upon this extended historical database, two simulations, employing two modified versions of MTFM, were required to produce the base case.

The first simulation utilized a version of the model which was normalized on a series of constant term adjustments -- one for each equation. Viewing MTFM's endogenous variables as exogenous, the simulation solved for those values of the constant term adjustments which were needed to reproduce history.

Switching, then, to a version of the model normalized on the "true" endogenous variables, the second simulation drew upon the simulated constant term adjustments to produce the base case.

Comparing the base case solution with recorded history, the errors for real Gross Domestic Product at market prices ranged from a low of $0.1 million (1981) in the second quarter of 1982 to a high of $9.8 million (1981) in the second quarter of 1986. This maximum value represented an error of 0.002 per cent relative to history. The errors for all other variables were similarly insignificant.

ii) The "No-CHOSP" Scenario

As indicated in the previous section, the alternative scenario examining the total impact of removing CHOSP, deducted program payments and the associated first-round investment and consumption expenditures from our base case results. In addition, it added-in, over a two-year period, that portion

of the program-induced expenditures which were deemed to have been simply moved forward. All other results were allowed to flow from the model.

In producing this scenario, two simulations were actually required.

In the first of these, only the housing starts impact was imposed. The reduction in housing starts, in and of itself, induced a substantial reduction in residential construction expenditures. However, as the model assigns an internally-generated constant-dollar value to each housing start, the resulting impact on housing expenditures differed significantly from CMHC's first-round estimates. To avoid double-counting, the model-generated response was subtracted from the externally-determined new construction expenditure impact before the latter was imposed.

In addition to the adjusted new construction impact, all other first-round effects were incorporated in the second simulation. As the equations for other residential construction expenditures and consumption of other durables do not lend themselves to significant model-induced first-round impacts in this exercise, CMHC's estimated responses for these variables were entered, unadjusted. Comparison of this second set of simulation results with the base case yielded an estimate of CHOSP's total economic impact.

The treatment of the change in federal capital assistance payments to persons deserves some mention. Normally, this would be amongst the first factors incorporated into the simulation. A careful treatment would then ensure that model-generated impacts flowing from program payments to housing starts or construction expenditures were not double-counted.

In this exercise, however, it was noted that only a small proportion of the program payments flowed through to the housing sector. In MTFM, federal

capital assistance payments to persons move in two directions. First, it flows through federal current expenditures into the government balance, and on into the financial block for financing. Second, it appears as personal income, is divided into permanent and transitory components, and then distributed across all personal expenditure categories.

As the program payments were clearly tied to residential construction expenditures, the study requires that any substantial first-round impacts on consumption (other than those which are imposed in recognition of program-associated furniture sales, etc.) must be suppressed. There are, as usual, several ways to accomplish this. The method adopted here was to incorporate a new variable for the CHOSP payments (GCAHOSF) directly into the identity for total federal capital assistance payments (GCASF). This approach bypasses a first-round impact on personal income while retaining the required effect on the federal balance. The required housing sector impact is then achieved through totally exogenous means.

iii) The "NO-CHRP" Scenario

The narrower range of immediate responses to CHRP allowed for a single-stage simulation process. Once again, a new variable was created for CHRP program payments (GCAHRF) and incorporated into the total federal capital assistance identity. As in the "no-CHOSP" scenario, the CHRP's estimated first-round impact on other residential construction and durable goods consumption was then entered directly. Comparison of the "no-CHRP" results with the base case provided us with an estimate of CHRP's overall impact.

iv) Isolating Direct, Indirect and Induced Effects

The CEIC study describes direct, indirect and induced effects as follows:

"The direct impact of a fiscal stimulus refers to the immediate impact as compared with the indirect impacts which measure the effects of a fiscal policy initiative through inter-industry purchases and sales. Induced impacts are a further extension of indirect impacts and measure the impacts on output, employment, and prices through changes in investment induced by increased consumer expenditure."***

Given the complex inter-relationships embodied in MTFM, the definition of precise boundaries between direct, indirect and induced effects will, at best, be arbitrary. Using the principal focus of our study, i.e. the impact of CHOSP and CHRP on employment, as the locus around which to adapt these concepts, the following operational boundaries were set out.

First, CMHC's estimates of program expenditures and housing sector impacts were taken to be obvious direct effects. Its estimate of first-round changes in durable goods consumption, while also imposed exogenously, was not deemed to be an "intended" or primary objective of the program and was, therefore, regarded as an indirect response.

Turning to the model-generated effects, the division between direct and indirect output and employment impacts was particularly troublesome. MTFM's output block incorporates an input-output framework which has changes in both intermediate and final demand acting on industry output simultaneously. A change in residential construction expenditures not only impacts directly on construction output, but also, for example, on the output of transportation

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*** Ibid., p. 2.

equipment. At the same time, this direct impact on transportation equipment generates an intermediate demand for more construction output and employment.

How much of the construction output and employment, then, is really intermediate in origin and how much of the transportation equipment output and employment is really direct? It is impossible to say without re-building the output block.

Largely for reasons of expediency, we have defined as direct effects all changes in output and employment triggered solely by the programs' direct impact on residential construction expenditures. Additional output and employment arising from the programs' first-round impact on other durables consumption is viewed, along with its source, as indirect. Also regarded as indirect effects, are all changes in government revenues and expenditures (excluding the program payments, themselves) associated with the programs' first-round impacts on the housing sector and other durables.

Estimates of these effects were obtained as follows. A program's direct impact on output and employment was determined by constraining the model to produce that program's exogenously-determined direct effects. All other variables, excluding those in the output and employment sectors, were constrained to yield values at or near historical levels. The resulting changes in output and employment, relative to the base case, were taken to be the program's only endogenously-determined direct effects.

The determination of a program's indirect effects started with the same constraints used to isolate its direct effects. In addition, the estimated first-round impact on consumer durables was imposed, while the constraints on income and the federal government tax/transfer block were removed. Thus,

income, government revenues and expenditures, output and employment were now free to respond to the program's first-round impact on housing and other durables consumption.

Responses arising from model linkages between income and federal tax/transfers were counted as indirect. Those arising from linkages between income and the final demand categories were not. The latter were viewed as second-round or induced effects. Consequently, output and employment changes arising solely from a program's first-round impact on consumer durables plus any changes in federal tax/transfers flowing from other direct or indirect responses were regarded as the program's only endogenously-determined indirect effects.

Finally, induced effects were simply the difference between a program's total impact and the sum of its direct and indirect effects.

CHOSP IMPACT

A summary of CHOSP's overall impact is presented in Table 6. Tables 7, 8 and 9 present respective summaries of its direct, indirect and induced effects.

Based on CMHC's estimates of CHOSP's first-round effects, our results indicate that the program had a substantial positive short-run impact on the Canadian economy. The strong initial response in housing and consumer durables was significantly enhanced by an income-induced expansion in overall consumption.

Thus, the program may have added up to three-tenths of a percentage point to the 1982 growth rate for real Gross Domestic Product (GDP) at Market Prices. While this falls far short of what was required to lift the economy out of the recession, our estimates suggest that the program generated upwards of 67,000 additional person-years of employment through the lean years of 1982 and 1983.

In the construction industry, our results indicate that CHOSP increased short-run activity by nine-tenths of a percentage point. Although industry employment did not respond with a sharp level increase, it kept pace with the expansion in construction output in percentage terms.

Turning to costs, the program appears to have cost virtually nothing in terms of increased inflation rates. Interest rates, however, are another story. By 1983, the program's capital assistance payments appear to have grown sufficiently large to impart a negative impact on the federal balance and, through it, upward pressure on Canadian interest rates.

By 1986, the 90-day treasury bill rate was up by 23 basis points over the "no-CHOSP" solution. MTFM generates this response through a direct linkage between the federal government balance (GBALF) and the treasury bill rate (RTB90). This increase in the treasury bill rate then feeds through the entire domestic term structure, pushing up all Canadian interest rates.

Over the short-run, the higher rates begin to generate a negative induced effect in the housing sector. Thus, although CMHC's estimate of CHOSP's total direct effect on new housing construction expenditures stands at $800 million for 1983, the rise in interest rates appears to have discouraged over $100 million of non-program-related construction. In addition, the beginning of our assumed negative timing effect in the third quarter, removes another $500 million from our estimate of the year's realized construction activity. Having accounted for both of these negative factors, CHOSP's positive impact on real new housing construction expenditures in 1983 is estimated to be around $150 million, down substantially from an overall impact of almost $700 million in 1982.

Although CHOSP payments drop quickly to zero through 1984, their adverse impact on the federal balance and interest rates, over the short run, appears to trigger an ever increasing impact on public debt charges. This, in turn, serves to enlarge the deficit further and maintain the upward pressure on interest rates. When this is combined with the extended, albeit diminishing, influence of CHOSP's negative timing effect, the program's impact over the final 3 years of the study period is unequivocally negative.

Turning back to Table 1, CHOSP's negative medium-term impact on both employment and the federal balance is dramatically illustrated by its negative accrued effect on jobs and the startling escalation in its cumulative net

costs. By contrast, its superior performance over the short-run reflects a situation in which each additional job is obtained for less than $5,000.

Given the degree to which Canadian interest rates are administered, one might ask, at this point, whether it is reasonable to assume that interest rates did in fact respond to upward pressures as indicated by our results. This is, of course, an extremely difficult question to answer. To facilitate comparison with cost estimates contained in the CEIC study, we have assumed, in this and the following section, that Canadian rates did respond. However, the importance of this issue to our results has prompted an extension of our analysis which examines the program's impact while holding interest rates constant.

CHRP IMPACT

A summary of CHRP's overall impact is presented in Table 10. Tables 11, 12 and 13 present summaries of its direct, indirect and induced effects, respectively.

CHRP, with its relatively small first-round impact on residential construction expenditures and durable goods consumption, appears to have had a correspondingly small effect throughout the economy. Although it generates a significant positive short-run induced effect on overall consumption, the small size of the program and its relatively weak direct impact on residential spending preclude it from generating any economic clout. Thus, although CHRP's program payments are roughly 30 per cent the size of CHOSP's, its short-run impact on GDP at Market Prices is less than 15 per cent as large, while its total employment impact is only one-tenth the size.

While the modest nature of the program limits its potential economic benefits, it helps the program to avoid, to a large extent, the startling run-up in medium-term costs associated with CHOSP. The key to this result is the program's relatively benign impact on the federal government balance and, through it, on interest rates. In this case, program payments are sufficiently small to be largely offset by program-induced revenue gains and a reduction in unemployment insurance benefits. Although the federal balance does deteriorate throughout the study period, the effect is so small as to have virtually no impact on interest rates and public debt charges.

Nevertheless, while the cumulating net costs of the program are relatively small, the accruing benefits are even smaller. Indeed, with the

program's positive impact on employment ending by 1985, the continued build-up of its modest net cost is sufficient to raise the net cost per job from an already high $24,000, in the short run, to a very expensive $48,700, over the medium term.

THE IMPACT OF HOLDING INTEREST RATES CONSTANT

A key ingredient in the overall impacts of both CHOSP and CHRP is the degree to which program expenditures result in a significant deterioration in the federal balance and an increase in interest rates. With the federal debt standing at over $200 billion, even a fractional increase in interest rates can trigger a troublesome cycle of escalating debt charges and increasing deficits.

Given the possibility that Canada's highly-administered interest rates may not have responded to the two programs to the extent indicated here, the analysis was extended to include the case where short-run interest rates remain totally unaffected. Tables 15 and 16 present a summary of the results for CHOSP and CHRP, respectively.

Not surprisingly, the more dramatic impact is seen in the CHOSP results. Holding interest rates constant, the program's negative induced effects on interest-sensitive expenditures are removed, allowing for significantly higher levels of economic activity and employment. At the same time, the virtual elimination of the program's adverse impact on federal debt charges, the major item in the substantial deterioration of the federal balance in the unconstrained case, completely alters the net costs associated with CHOSP. Under constant interest rates, then, CHOSP's net cost per job rises from an extremely low $1,300, in the short run, to a still modest $4,800, over the medium term.

Given the negligible impact of CHRP on interest rates in the unconstrained case, the removal of all interest rate fluctuations did not

substantially alter the estimated performance of the program. Thus, holding interest rates constant, the program's net cost per job over the medium term remains at a relatively high $29,500.

CONCLUSION

With or without constrained interest rates, and compensating for differences in the relative magnitudes of their program payments, CHOSP and CHRP appear to have had very different effects on the Canadian economy.

CHOSP, with its relatively large stimulus to new housing construction expenditures, had a substantial positive short-run impact on general economic activity and employment. On the downside, however, its program payments soon grew sufficiently large to impart a negative impact on the federal government balance.

Assuming that Canadian interest rates responded by drifting upwards, as indicated in our unconstrained case, the program would have generated significant negative induced effects on all interest-sensitive expenditures. Over the medium term, these higher interest rates would have triggered a cycle of ever higher debt charges, leading to ever larger deficits, resulting in continued pressure on interest rates. When the effects of these higher rates are combined with CHOSP's substantial negative timing effects, the program's impact over the final three years of the study period would have been clearly negative.

CHRP, with its more modest impact on renovation expenditures, possessed none of the short-run punch exhibited by CHOSP. However, with its smaller program payments largely offset by program-induced revenue gains and declines in unemployment insurance benefits, CHRP's adverse impact on the federal balance, interest rates and public debt charges appears to have been modest. Nevertheless, while the program's net costs were relatively small, the

accruing employment benefits were even smaller. Consequently, CHRP's net cost per additional person-year of employment was found to be quite high over both the short and longer runs.

If we go on to assume that Canadian interest rates were totally unaffected by the introduction of these programs, the assessment of CHOSP improves dramatically. Not only are its negative induced effects on economic activity removed, but its cumulative net cost to the government is greatly diminished.

CHRP's assessment, on the other hand, is not substantially altered by this change in assumption. Having had a negligible impact on interest rates in the unconstrained case, there was little to be gained by holding interest rates constant.

As always, a final judgement on the merit of these programs depends critically on the objectives sought. If viewed simply in terms of their ability to generate increased employment at a reasonable cost, CHRP would appear to have fared rather poorly on both counts.

Alternatively, CHOSP seems to have almost certainly been quite successful at generating jobs over the short run. Its shortcoming, if any, issues from its possible impact on interest rates. For the purposes of future planning, the results of this study suggest that the size of any future homeownership program and the manner in which it is financed are issues of central importance to its success.

Table 1

Costs Per Additional Job,
by Program and Level of Effect
(current dollars)

	CHOSP		CHRP	
	Short Term 1982-83	Long Term 1982-86	Short Term 1982-83	Long Term 1982-86
A. No. of Additional Jobs Created ('000)	67	-21	6	6
(a) Direct	35	13	3	2
(b) Indirect	15	22	1	2
(c) Induced	17	-56	1	2
B. Direct Program Costs (millions $)	778	798	213	260
(a) Direct	778	798	213	260
(b) Indirect	0	0	0	0
(c) Induced	0	0	0	0
C. Net Costs (millions $)	326	2344	145	292
(i) Tot. Current Expend.	815	2025	211	352
- U.I.C. Benefits	-124	105	-11	-9
- Interest on Public Debt	136	1108	7	91
(ii) Total Revenue	494	-333	66	61
(a) Direct	778	798	213	260
(b) Indirect	-180	-115	-16	-2
(c) Induced	-272	1661	-52	34
D. Direct Program Cost Per Job (=(B/A)*1000)	$11,612	n.a.	$35,500	$43,333
E. Net Cost Per Job (=(C/A)*1000)	$4,866	n.a.	$24,167	$48,667

Source: The Conference Board of Canada

(continued on next page)

Table 1 (continued)

Costs Per Additional Job,
by Program and Level of Effect

Notes: n.a. Not appropriate. Given the negative value for the number of additional jobs, the cost per job calculation would yield an estimate of the cost per eliminated job.

1. All data are expressed in current dollars, except for the number of additional jobs which are in thousands of person-years of employment.

2. Data for A,B and C are cumulative sums of the total program impacts. See Tables 6 and 10 for the annual distribution.

3. The number of additional jobs includes both full- and part-time employment.

4. Direct program costs include all program expenditures, including administration costs, and are captured as changes to federal capital assistance payments.

5. Net costs are defined as a net increase in the federal government deficit (National Accounts basis) and reflect impacts on all federal government revenue and expenditure items, including direct program costs. The change in the federal deficit cannot, in general, be calculated by subtracting the impact on total revenues from that on total current expenditures. Omitted are some small changes to federal government capital consumption allowances and gross capital formation.

Table 2

Direct Impact of CHOSP and CHRP
(millions 1981 $)

	Total Effect	Permanent Effect
CHOSP		
Program Expenditures	693.478	
Housing Starts ('000)		
Ownership	29.835	5.452
Rental	-1.720	
Business Residential Construction		
New Housing Construction	1526.	279.
New Housing Legal Fees	31.105	5.730
Existing Housing Real Estate Commissions	63.179	8.891
Existing Housing Legal Fees	31.803	4.781
Consumption of Durables		
New Housing	351.176	
Existing Housing	283.860	
CHRP		
Program Expenditures	200.675	
Business Residential Construction	234.593	24.804
Consumption of Durables	71.342	

Source: Canada Mortgage and Housing Corporation

Notes:
1. All data are expressed in millions of 1981 dollars, except for housing starts which are in thousands of units.
2. A permanent effect is that portion of a total effect which would never have occurred in the absence of the program.
3. The difference between the total and the permanent effect is the timing effect or that portion of the total effect which was simply moved forward from later periods.

Table 3

Percentage Distribution of Expenditures and Activity

Year	Quarter	CHRP Cheque Dates	CHOSP Cheque Dates	New Construction Completion Month	Existing Housing Occupation Month
1982	I	--	--	1.399*	--
	II	0.089	--	3.229*	1.600
	III	3.847	14.930	15.110	29.300
	IV	10.965	22.402**	20.518	47.500
1983	I	10.013	31.303**	12.422	15.800
	II	11.538	11.875	25.831	4.200
	III	26.507	12.428	14.362	1.500
	IV	26.118	4.848	4.690	0.100
1984	I	7.915	1.731	1.001	--
	II	2.100	0.375	0.790	--
	III	0.709	0.120	0.250	--
	IV	0.181	0.138	0.336	--
TOTAL		99.982	100.150	99.938	100.000

Source: Canada Mortgage and Housing Corporation

Notes: * Although eligible houses completed in the first two quarters of 1982 qualified for CHOSP grants, they were not deemed to have been attributable to the program. Consequently, these two data points and the associated housing activity were removed from consideration as part of the incremental impact of the program.

** Due to apparent timing differences between the measurement procedures used by CMHC and Statistics Canada, the chronological sequence of these two data points have been reversed. The original sequence provided by CMHC would have produced a negative federal capital assistance to persons value for the 4th quarter of 1982.

Table 4

Percentage Distribution of Timing Effects

	Post-Program Quarter	CHOSP Activity		CHRP Activity	
	I	22.5		25.2	
	II	20.4		23.7	
	III	17.7		20.5	
	IV	14.4		15.6	
Subtotal			75.0		85.0
	V	10.6		10.0	
	VI	7.3		5.0	
	VII	4.6		--	
	VIII	2.5		--	
Subtotal			25.0		15.0
TOTAL			100.0		100.0

Source: Canada Mortgage and Housing Corporation and The Conference Board of Canada

Notes: 1. A Troll non-linear interpolation procedure was used to distribute assumed annual shares by quarter.

Table 5

HISTORICAL DATA

	1982	1983	1984	1985	1986
Key Indicators					
Gross Domestic Product at Market Prices (millions 1981 $)	344082	354780	374462	389324	401028
CPI Inflation Rate (%)	10.79	5.81	4.34	3.95	4.02
Total Employment ('000)	10648	10731	10997	11309	11698
90-Day Treasury Bill Rate (%)	13.63	9.31	11.06	9.43	8.94
Housing Starts ('000)					
Singles	55	101	84	98	106
Multiples	73	59	52	67	75
Business Residential Construction (millions 1981 $)					
New Housing	8192	10231'	9513	10714	13069
Other	9016	9565	10243	11525	11895
Construction Industry					
Gross Domestic Product at Factor Cost (millions 1981 $)	16478	15537	15166	15982	16247
Employment ('000)	599	565	571	586	629
Consumption (millions 1981 $)					
Total	192570	198392	205496	215683	222813
Other Durables	13938	15048	16210	17433	18291

(continued on next page)

Table 5 (continued)

HISTORICAL DATA

	1982	1983	1984	1985	1986
Federal Government (millions $)					
Total Revenue	65001	68532	75572	82417	87375
- Personal Income Tax	25746	26809	28154	32123	33570
- Corporate Income Tax	7340	6930	8783	9064	9720
- Manuf. Sales Tax	5846	6411	7353	9015	10514
Total Current Expenditures	85164	93051	104771	113634	111079
- UIC Benefits	8454	10062	9859	10169	9990
- Capital Assistance to Persons	2553	3599	3369	3021	2294
- Interest on Public Debt	16675	17412	21320	25285	25648
Balance (NA Basis)	-20420	-25056	-30459	-32259	-24694
Other Levels of Government (millions $)					
Total Revenue	88400	96887	106401	113315	119066
- Direct Taxes, Persons	22057	23497	25762	26749	29982
- Direct Taxes, Business	2543	2784	3694	3916	4396
- Retail Sales Tax	8679	10224	11602	13081	14298
Total Current Expenditures	88831	98040	105061	112111	120696
- Goods and Services	58817	63472	67600	71010	76264
- Welfare Payments	4667	5608	6128	6713	7265
- Interest on Public Debt	10402	11991	13523	15005	16612
Balance (NA Basis)	-4861	-4748	-1925	-2243	-5696

(continued on next page)

Table 5 (continued)

HISTORICAL DATA

Employment ('000)	1982	1983	1984	1985	1986
Total	10648	10731	10997	11309	11698
- Agriculture	462	476	476	488	488
- Other Primary	272	281	292	293	299
- Manufacturing	1930	1885	1968	1981	2052
- Construction	599	565	571	586	629
- Commercial Services	5055	5144	5275	5493	5709
- Non-Commercial Services	1563	1599	1626	1667	1710
- Public Administration and Defence	767	782	790	801	810
- Part-Time	1534	1652	1690	1757	1829

Source: The Conference Board of Canada

Notes:
1. Single housing starts refer only to single, detached houses. All other types of housing are treated as multiples.
2. Other residential construction expenditures are comprised of alterations and improvements, and transfer costs.
3. Consumption of other durables refers to all durable goods, excluding automobiles and parts.
4. All government data are expressed in current dollars.
5. The impact on federal capital assistance is entirely attributable to the housing program being studied.
6. The impact on both the federal government balance and the balance for other levels of government cannot, in general, be calculated by subtracting the impact on total current expenditures from that on total revenues. Omitted are some small changes to capital consumption allowances and gross capital formation for both levels of government.
7. Total and industry employment figures include part-time employment.

Table 6

CHOSP's TOTAL IMPACT, BY YEAR

	1982	1983	1984	1985	1986	Short-Term 1982 - 83	Long-Term 1982 - 86
Key Indicators							
Gross Domestic Product at Market Prices (millions 1981 $)	1053	638	-944	-1031	892	1691	-1175
CPI Inflation Rate (%)	0.00	0.02	0.03	-0.03	-0.04	0.02	-0.02
Total Employment ('000)	16	51	-5	-40	-43	67	-21
90-Day Treasury Bill Rate (%)	0.06	0.18	0.20	0.22	0.23	0.24	0.88
Housing Starts ('000)							
Singles	12	3	-13	-4	-3	14	-5
Multiples	2	-1	-4	-1	-1	1	-5
Business Residential Construction (millions 1981 $)							
New Housing	697	150	-926	-301	-225	847	-605
Other	103	-8	-61	-51	-58	95	-75
Construction Industry							
Gross Domestic Product at Factor Cost (millions 1981 $)	214	68	-218	-173	-133	282	-242
Employment ('000)	3	8	-2	-7	-7	11	-5
Consumption (millions 1981 $)							
Total	546	704	-263	-374	-298	1250	315
Other Durables	374	297	-68	-72	-50	671	481

(continued on next page)

Table 6 (continued)

CHOSP's TOTAL IMPACT, BY YEAR

	1982	1983	1984	1985	1986	Short-Term 1982 - 83	Long-Term 1982 - 86
Federal Government (millions $)							
Total Revenue	296	198	-243	-276	-309	494	-333
- Personal Income Tax	45	200	43	-46	-73	245	168
- Corporate Income Tax	134	-105	-161	-74	-62	29	-268
- Manuf. Sales Tax	72	33	-63	-60	-79	104	-98
Total Current Expenditures	268	547	266	413	532	815	2025
- UIC Benefits	-31	-94	16	99	114	-124	105
- Capital Assistance to Persons	283	495	21	0	0	778	798
- Interest on Public Debt	12	124	214	318	440	136	1108
Balance (NA Basis)	27	-352	-507	-680	-831	-326	-2344
Other Levels of Government (millions $)							
Total Revenue	155	202	-124	-220	-278	357	-264
- Direct Taxes, Persons	37	136	18	-52	-69	174	70
- Direct Taxes, Business	39	-28	-48	-26	-25	11	-89
- Retail Sales Tax	60	92	-88	-116	-72	152	-125
Total Current Expenditures	11	94	81	31	-8	105	209
- Goods and Services	10	77	47	-13	-66	87	54
- Welfare Payments	-3	-3	14	16	15	-6	40
- Interest on Public Debt	0	7	21	38	55	8	122
Balance (NA Basis)	130	90	-195	-217	-228	220	-420

(continued on next page)

Table 6 (continued)

CHOSP's TOTAL IMPACT, BY YEAR

Employment ('000)	1982	1983	1984	1985	1986	Short-Term 1982 - 83	Long-Term 1982 - 86
Total	16	51	-5	-40	-43	67	-21
- Agriculture	0	0	0	-1	0	0	-1
- Other Primary	0	1	0	-1	-1	1	-1
- Manufacturing	5	12	-3	-14	-16	17	-16
- Construction	3	8	-2	-7	-7	11	-5
- Commercial Services	7	28	2	-18	-18	36	2
- Non-Commercial Services	0	1	0	0	0	1	1
- Public Administration and Defence	0	0	0	0	0	0	0
- Part-Time	2	7	-2	-6	-4	9	-3

Source: The Conference Board of Canada

Notes: 1. All data indicate level differences between a solution which contains the program and one which does not.

2. The short- and long-term impacts are cumulative totals of the annual impacts for the years noted. Small discrepancies may occur due to rounding error.

3. See notes at the bottom of Table 5.

Table 7

CHOSP's DIRECT IMPACT, BY YEAR

	1982	1983	1984	1985	1986	Short-Term 1982 - 83	Long-Term 1982 - 86
Key Indicators							
Gross Domestic Product at Market Prices (millions 1981 $)	767	240	-636	-92	0	1007	279
CPI Inflation Rate (%)	0	0	0	0	0	0	0
Total Employment ('000)	12	23	-9	-9	-4	35	13
90-Day Treasury Bill Rate (%)	0	0	0	0	0	0	0
Housing Starts ('000)							
Singles	11	4	-10	-1	0	16	4
Multiples	2	1	-2	0	0	3	1
Business Residential Construction (millions 1981 $)							
New Housing	678	266	-600	-88	0	944	256
Other	89	-26	-36	-4	0	62	22
Construction Industry							
Gross Domestic Product at Factor Cost (millions 1981 $)	200	63	-167	-25	0	263	71
Employment ('000)	4	7	-2	-3	-1	11	4
Consumption (millions 1981 $)							
Total	0	0	0	0	0	0	0
Other Durables	0	0	0	0	0	0	0

(continued on next page)

Table 7 (continued)

CHOSP's DIRECT IMPACT, BY YEAR

	1982	1983	1984	1985	1986	Short-Term 1982 - 83	Long-Term 1982 - 86
Federal Government (millions $)							
Total Revenue	0	0	0	0	0	0	0
- Personal Income Tax	0	0	0	0	0	0	0
- Corporate Income Tax	0	0	0	0	0	0	0
- Manuf. Sales Tax	0	0	0	0	0	0	0
Total Current Expenditures	283	495	21	0	0	778	798
- UIC Benefits	0	0	0	0	0	0	0
- Capital Assistance to Persons	283	495	21	0	0	778	798
- Interest on Public Debt	0	0	0	0	0	0	0
Balance (NA Basis)	-283	-495	-21	0	0	-778	-798
Other Levels of Government (millions $)							
Total Revenue	0	0	0	0	0	0	0
- Direct Taxes, Persons	0	0	0	0	0	0	0
- Direct Taxes, Business	0	0	0	0	0	0	0
- Retail Sales Tax	0	0	0	0	0	0	0
Total Current Expenditures	0	0	0	0	0	0	0
- Goods and Services	0	0	0	0	0	0	0
- Welfare Payments	0	0	0	0	0	0	0
- Interest on Public Debt	0	0	0	0	0	0	0
Balance (NA Basis)	0	0	0	0	0	0	0

Source: The Conference Board of Canada

Notes: 1. See notes at the bottom of table 6.

Table 8

CHOSP's INDIRECT IMPACT, BY YEAR

	1982	1983	1984	1985	1986	Short-Term 1982 - 83	Long-Term 1982 - 86
Key Indicators							
Gross Domestic Product at Market Prices (millions 1981 $)	348	286	9	0	0	634	643
CPI Inflation Rate (%)	0	0	0	0	0	0	0
Total Employment ('000)	4	11	5	1	0	15	22
90-Day Treasury Bill Rate (%)	0	0	0	0	0	0	0
Housing Starts ('000)							
Singles	0	0	0	0	0	0	0
Multiples	0	0	0	0	0	0	0
Business Residential Construction (millions 1981 $)							
New Housing	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Construction Industry							
Gross Domestic Product at Factor Cost (millions 1981 $)	0	0	0	0	0	0	0
Employment ('000)	0	0	0	0	0	0	0
Consumption (millions 1981 $)							
Total	348	286	9	0	0	634	643
Other Durables	348	286	9	0	0	634	643

(continued on next page)

Table 8 (continued)

CHOSP's INDIRECT IMPACT, BY YEAR

	1982	1983	1984	1985	1986	Short-Term 1982 - 83	Long-Term 1982 - 86
Federal Government (millions $)							
Total Revenue	-12	-44	11	12	0	-56	-33
- Personal Income Tax	23	47	-5	-12	-6	70	47
- Corporate Income Tax	-61	-120	16	28	9	-187	-135
- Manuf. Sales Tax	19	11	3	3	0	30	37
Total Current Expenditures	-68	-168	26	42	16	-236	-149
- UIC Benefits	-68	-168	26	42	18	-236	-150
- Capital Assistance to Persons	0	0	0	0	0	0	0
- Interest on Public Debt	0	0	0	1	1	0	2
Balance (NA Basis)	56	124	-16	-31	-18	180	115
Other Levels of Government (millions $)							
Total Revenue	28	34	-24	-7	-6	62	25
- Direct Taxes, Persons	20	43	-5	-10	-5	62	42
- Direct Taxes, Business	-18	-36	5	8	3	-53	-38
- Retail Sales Tax	16	24	-16	-3	0	39	20
Total Current Expenditures	-1	-2	3	0	0	-2	0
- Goods and Services	0	0	0	0	0	0	0
- Welfare Payments	-4	-8	3	2	1	-12	-6
- Interest on Public Debt	0	0	0	0	0	0	0
Balance (NA Basis)	29	36	-27	-8	-5	65	25

Source: The Conference Board of Canada

Notes: 1. See notes at the bottom of Table 6.

Table 9

CHOSP's INDUCED IMPACT, BY YEAR

	1982	1983	1984	1985	1986	Short-Term 1982 - 83	Long-Term 1982 - 86
Key Indicators							
Gross Domestic Product at Market Prices (millions 1981 $)	-62	112	-317	-939	-892	50	-2098
CPI Inflation Rate (%)	0.00	0.02	0.03	-0.03	-0.04	0.03	-0.01
Total Employment ('000)	0	17	0	-33	-40	17	-56
90-Day Treasury Bill Rate (%)	0.06	0.18	0.20	0.22	0.23	0.24	0.88
Housing Starts ('000)							
Singles	0	-2	-3	-2	-3	-1	-10
Multiples	2	-2	-2	-1	-1	-2	-6
Business Residential Construction (millions 1981 $)							
New Housing	19	-116	-327	-213	-220	-97	-857
Other	14	18	-25	-47	-57	32	-96
Construction Industry							
Gross Domestic Product at Factor Cost (millions 1981 $)	12	5	-51	-148	-131	17	-313
Employment ('000)	-1	1	0	-4	-6	0	-10
Consumption (millions 1981 $)							
Total	199	418	-271	-371	-296	617	-321
Other Durables	26	11	-77	-72	-49	37	-161

(continued on next page)

Table 9 (continued)

CHOSP's INDUCED IMPACT, BY YEAR

	1982	1983	1984	1985	1986	Short-Term 1982 - 83	Long-Term 1982 - 86
Federal Government (millions $)							
Total Revenue	308	242	-254	-288	-309	551	-300
- Personal Income Tax	23	153	47	-34	-67	175	122
- Corporate Income Tax	195	21	-176	-101	-71	216	-133
- Manuf. Sales Tax	53	22	-66	-63	-80	74	-135
Total Current Expenditures	53	221	219	370	513	273	1376
- UIC Benefits	37	75	-10	57	96	112	255
- Capital Assistance to Persons	0	0	0	0	0	0	0
- Interest on Public Debt	12	124	214	318	439	136	1106
Balance (NA Basis)	254	19	-471	-649	-813	272	-1661
Other Levels of Government (millions $)							
Total Revenue	127	168	-99	-213	-272	295	-289
- Direct Taxes, Persons	18	94	23	-42	-64	112	28
- Direct Taxes, Business	56	8	-52	-35	-28	64	-51
- Retail Sales Tax	44	68	-72	-114	-72	112	-145
Total Current Expenditures	12	96	78	31	-8	107	208
- Goods and Services	10	77	47	-13	-66	87	55
- Welfare Payments	0	5	11	14	15	6	46
- Interest on Public Debt	0	7	21	38	55	8	122
Balance (NA Basis)	101	54	-168	-209	-223	155	-445

Source: The Conference Board of Canada

Notes: 1. See notes at the bottom of Table 6.

Table 10

CHRP's TOTAL IMPACT, BY YEAR

	1982	1983	1984	1985	1986	Short-Term 1982 - 83	Long-Term 1982 - 86
Key Indicators							
Gross Domestic Product at Market Prices (millions 1981 $)	38	193	-41	-56	-42	231	93
CPI Inflation Rate (%)	0.00	0.00	0.01	0.00	0.00	0.00	0.01
Total Employment ('000)	0	5	4	-1	-2	6	6
90-Day Treasury Bill Rate (%)	0.00	0.00	0.01	0.01	0.00	0.00	0.02
Housing Starts ('000)							
Singles	0	0	0	0	0	0	0
Multiples	0	0	0	0	0	0	0
Business Residential Construction (millions 1981 $)							
New Housing	1	7	-7	-11	-3	8	-13
Other	32	132	-99	-12	-2	164	51
Construction Industry							
Gross Domestic Product at Factor Cost (millions 1981 $)	9	38	-20	-9	-7	47	11
Employment ('000)	0	1	0	0	0	1	1
Consumption (millions 1981 $)							
Total	14	106	19	-32	-20	120	88
Other Durables	10	60	9	-8	-5	70	66

(continued on next page)

Table 10 (continued)

CHRP's TOTAL IMPACT, BY YEAR

	1982	1983	1984	1985	1986	Short-Term 1982 - 83	Long-Term 1982 - 86
Federal Government (millions $)							
Total Revenue	11	55	-3	-3	1	66	61
- Personal Income Tax	1	15	17	5	5	16	43
- Corporate Income Tax	6	15	-19	-2	1	21	1
- Manuf. Sales Tax	3	13	-4	-2	-2	15	8
Total Current Expenditures	31	180	66	36	40	211	352
- UIC Benefits	-1	-10	-8	4	6	-11	-9
- Capital Assistance to Persons	31	182	47	0	0	213	260
- Interest on Public Debt	0	7	23	30	32	7	91
Balance (NA Basis)	-20	-126	-69	-39	-39	-145	-292
Other Levels of Government (millions $)							
Total Revenue	5	36	9	1	2	41	53
- Direct Taxes, Persons	1	12	12	2	2	13	28
- Direct Taxes, Business	2	5	-5	-1	0	6	0
- Retail Sales Tax	1	16	0	-6	-3	17	9
Total Current Expenditures	0	6	13	10	10	6	40
- Goods and Services	0	5	11	8	7	5	31
- Welfare Payments	0	-1	1	2	2	-1	3
- Interest on Public Debt	0	0	1	1	2	0	4
Balance (NA Basis)	4	27	-6	-9	-7	32	10

(continued on next page)

Table 10 (continued)

CHRP's TOTAL IMPACT, BY YEAR

Employment (millions $)	1982	1983	1984	1985	1986	Short-Term 1982 - 83	Long-Term 1982 - 86
Total	0	5	4	-1	-2	6	6
- Agriculture	0	0	0	0	0	0	0
- Other Primary	0	0	0	0	0	0	0
- Manufacturing	0	1	1	0	-1	2	1
- Construction	0	1	0	0	0	1	1
- Commercial Services	0	3	2	-1	-1	3	3
- Non-Commercial Services	0	0	0	0	0	0	0
- Public Administration and Defence	0	0	0	0	0	0	0
- Part-Time	0	1	0	0	0	1	1

Source: The Conference Board of Canada

Notes: 1. See notes at the bottom of Table 6.

Table 11

CHRP's DIRECT IMPACT, BY YEAR

	1982	1983	1984	1985	1986	Short-Term 1982 - 83	Long-Term 1982 - 86
Key Indicators							
Gross Domestic Product at Market Prices (millions 1981 $)	32	128	-101	-11	0	160	48
CPI Inflation Rate (%)	0	0	0	0	0	0	0
Total Employment ('000)	0	3	0	-1	-1	3	2
90-Day Treasury Bill Rate (%)	0	0	0	0	0	0	0
Housing Starts ('000)							
Singles	0	0	0	0	0	0	0
Multiples	0	0	0	0	0	0	0
Business Residential Construction (millions 1981 $)							
New Housing	0	0	0	0	0	0	0
Other	32	128	-101	-11	0	160	48
Construction Industry							
Gross Domestic Product at Factor Cost (millions 1981 $)	8	33	-27	-4	0	42	11
Employment ('000)	0	1	0	0	0	1	1
Consumption (millions 1981 $)							
Total	0	0	0	0	0	0	0
Other Durables	0	0	0	0	0	0	0

(continued on next page)

Table 11 (continued)

CHRP's DIRECT IMPACT, BY YEAR

	1982	1983	1984	1985	1986	Short-Term 1982 - 83	Long-Term 1982 - 86
Federal Government (millions $)							
Total Revenue	0	0	0	0	0	0	0
- Personal Income Tax	0	0	0	0	0	0	0
- Corporate Income Tax	0	0	0	0	0	0	0
- Manuf. Sales Tax	0	0	0	0	0	0	0
Total Current Expenditures	31	182	47	0	0	213	260
- UIC Benefits	0	0	0	0	0	0	0
- Capital Assistance to Persons	31	182	47	0	0	213	260
- Interest on Public Debt	0	0	0	0	0	0	0
Balance (NA Basis)	-31	-182	-47	0	0	-213	-260
Other Levels of Government (millions $)							
Total Revenue	0	0	0	0	0	0	0
- Direct Taxes, Persons	0	0	0	0	0	0	0
- Direct Taxes, Business	0	0	0	0	0	0	0
- Retail Sales Tax	0	0	0	0	0	0	0
Total Current Expenditures	0	0	0	0	0	0	0
- Goods and Services	0	0	0	0	0	0	0
- Welfare Payments	0	0	0	0	0	0	0
- Interest on Public Debt	0	0	0	0	0	0	0
Balance (NA Basis)	0	0	0	0	0	0	0

Source: The Conference Board of Canada

Notes: 1. See notes at the bottom of Table 6.

Table 12

CHRP's INDIRECT IMPACT, BY YEAR

	1982	1983	1984	1985	1986	Short-Term 1982 - 83	Long-Term 1982 - 86
Key Indicators							
Gross Domestic Product at Market Prices (millions 1981 $)	10	55	14	0	0	65	79
CPI Inflation Rate (%)	0	0	0	0	0	0	0
Total Employment ('000)	0	1	1	0	0	1	2
90-Day Treasury Bill Rate (%)	0	0	0	0	0	0	0
Housing Starts ('000)							
Singles	0	0	0	0	0	0	0
Multiples	0	0	0	0	0	0	0
Business Residential Construction (millions 1981 $)							
New Housing	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Construction Industry							
Gross Domestic Product at Factor Cost (millions 1981 $)	0	0	0	0	0	0	0
Employment ('000)	0	0	0	0	0	0	0
Consumption (millions 1981 $)							
Total	10	55	14	0	0	65	79
Other Durables	10	55	14	0	0	65	79

(continued on next page)

Table 12 (continued)

CHRP's INDIRECT IMPACT, BY YEAR

	1982	1983	1984	1985	1986	Short-Term 1982 - 83	Long-Term 1982 - 86
Federal Government (millions $)							
Total Revenue	0	-6	-2	-3	-6	-6	-17
- Personal Income Tax	1	5	1	-1	-2	6	4
- Corporate Income Tax	-2	-16	-5	0	-2	-18	-25
- Manuf. Sales Tax	1	3	1	0	-1	3	2
Total Current Expenditures	-2	-20	-6	5	3	-22	-20
- UIC Benefits	-2	-20	-6	4	2	-22	-21
- Capital Assistance to Persons	0	0	0	0	0	0	0
- Interest on Public Debt	0	0	0	1	1	0	2
Balance (NA Basis)	1	14	3	-8	-9	16	2
Other Levels of Government (millions $)							
Total Revenue	1	6	-3	-4	-6	7	-7
- Direct Taxes, Persons	1	5	1	-1	-1	6	4
- Direct Taxes, Business	0	-5	-2	0	-1	-5	-7
- Retail Sales Tax	0	4	-1	-1	-1	4	1
Total Current Expenditures	0	0	0	0	0	0	0
- Goods and Services	0	0	0	0	0	0	0
- Welfare Payments	0	-1	0	0	0	-1	-1
- Interest on Public Debt	0	0	0	0	0	0	0
Balance (NA Basis)	1	6	-3	-4	-6	7	-6

Source: The Conference Board of Canada

Notes: 1. See notes at the bottom of Table 6.

Table 13

CHRP's INDUCED IMPACT, BY YEAR

	1982	1983	1984	1985	1986	Short-Term 1982 - 83	Long-Term 1982 - 86
Key Indicators							
Gross Domestic Product at Market Prices (millions 1981 $)	-4	10	46	-45	-42	6	-35
CPI Inflation Rate (%)	0.00	0.00	0.01	0.00	0.00	0.01	0.01
Total Employment ('000)	0	1	3	0	-1	1	2
90-Day Treasury Bill Rate (%)	0.00	0.00	0.01	0.01	0.00	0.00	0.02
Housing Starts ('000)							
Singles	0	0	0	0	0	0	0
Multiples	0	0	0	0	0	0	0
Business Residential Construction (millions 1981 $)							
New Housing	1	7	-7	-11	-3	8	-3
Other	0	4	2	-1	-1	5	6
Construction Industry							
Gross Domestic Product at Factor Cost (millions 1981 $)	0	4	7	-5	-5	5	2
Employment ('000)	0	0	0	0	0	0	0
Consumption (millions 1981 $)							
Total	4	52	7	-29	-18	56	16
Other Durables	1	5	-5	-7	-5	5	-11

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Table 13 (continued)

CHRP's INDUCED IMPACT, BY YEAR

	1982	1983	1984	1985	1986	Short-Term 1982 - 83	Long-Term 1982 - 86
Federal Government (millions $)							
Total Revenue	11	61	-1	-1	7	72	78
- Personal Income Tax	0	10	16	6	7	10	39
- Corporate Income Tax	7	32	-14	-2	3	39	26
- Manuf. Sales Tax	2	10	-4	-2	0	12	6
Total Current Expenditures	1	18	24	31	37	20	112
- UIC Benefits	1	10	-2	-1	4	11	12
- Capital Assistance to Persons	0	0	0	0	0	0	0
- Interest on Public Debt	0	7	22	29	30	8	89
Balance (NA Basis)	10	42	-25	-31	-29	52	-34
Other Levels of Government (millions $)							
Total Revenue	4	30	12	5	9	35	60
- Direct Taxes, Persons	0	7	10	3	3	7	24
- Direct Taxes, Business	2	9	-4	-1	1	11	8
- Retail Sales Tax	1	12	1	-5	-1	13	8
Total Current Expenditures	0	6	13	10	11	6	40
- Goods and Services	0	5	11	8	7	5	31
- Welfare Payments	0	0	1	1	1	0	4
- Interest on Public Debt	0	0	1	1	2	0	4
Balance (NA Basis)	4	21	-2	-5	-1	25	16

Source: The Conference Board of Canada

Notes: 1. See notes at the bottom of Table 6.

Table 14

Costs Per Additional Job,
Holding Interest Rates Constant

	CHOSP		CHRP	
	Short Term 1982-83	Long Term 1982-86	Short Term 1982-83	Long Term 1982-86
A. No. of Additional Jobs Created ('000)	71	56	6	8
B. Direct Program Costs (millions $)	778	798	213	260
C. Net Costs (millions $)	92	269	143	237
(i) Tot. Current Expend.	675	876	209	324
- U.I.C. Benefits	-134	-72	-11	-13
- Interest on Public Debt	0	35	6	64
(ii) Total Revenue	591	616	67	88
D. Direct Program Cost Per Job (=(B/A)*1000)	$10,958	$14,250	$35,500	$32,500
E. Net Cost Per Job (=(C/A)*1000)	$1,296	$4,804	$23,833	$29,625

Source: The Conference Board of Canada

Notes: 1. See notes at the bottom of Table 1.

Table 15

CHOSP's TOTAL IMPACT,
Holding Interest Rates Constant

	1982	1983	1984	1985	1986	Short-Term 1982 - 83	Long-Term 1982 - 86
Key Indicators							
Gross Domestic Product at Market Prices (millions 1981 $)	1062	866	-418	-322	-66	1928	1122
CPI Inflation Rate (%)	0.01	0.06	0.05	-0.01	-0.03	0.07	0.08
Total Employment ('000)	16	55	10	-15	-11	71	56
90-Day Treasury Bill Rate (%)	0	0	0	0	0	0	0
Housing Starts ('000)							
Singles	12	4	-11	-1	0	16	4
Multiples	2	0	-3	0	0	2	-1
Business Residential Construction (millions 1981 $)							
New Housing	699	271	-715	-99	28	970	184
Other	104	13	-32	-9	-3	116	72
Construction Industry							
Gross Domestic Product at Factor Cost (millions 1981 $)	215	111	-137	-80	-23	325	85
Employment ('000)	3	9	0	-3	-3	12	5
Consumption (millions 1981 $)							
Total	528	686	-115	-92	28	1214	1035
Other Durables	371	295	-54	-48	-24	666	540

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Table 15 (continued)

CHOSP's TOTAL IMPACT,
Holding Interest Rates Constant

	1982	1983	1984	1985	1986	Short-Term 1982 - 83	Long-Term 1982 - 86
Federal Government (millions $)							
Total Revenue	302	288	-43	3	65	591	616
- Personal Income Tax	36	181	76	51	63	217	407
- Corporate Income Tax	148	-34	-82	-22	-4	114	6
- Manuf. Sales Tax	72	47	-29	-8	7	118	88
Total Current Expenditures	252	424	44	81	76	675	876
- UIC Benefits	-31	-103	-16	42	36	-134	-72
- Capital Assistance to Persons	283	495	21	0	0	778	798
- Interest on Public Debt	-4	4	7	11	17	0	35
Balance (NA Basis)	49	-140	-90	-77	-11	-92	-269
Other Levels of Government (millions $)							
Total Revenue	155	267	58	42	84	422	607
- Direct Taxes, Persons	33	130	50	20	34	163	266
- Direct Taxes, Business	43	-7	-22	-7	-3	36	3
- Retail Sales Tax	60	113	-38	-47	10	172	98
Total Current Expenditures	11	101	115	102	94	112	423
- Goods and Services	11	92	99	86	79	103	366
- Welfare Payments	-3	-6	9	11	9	-9	20
- Interest on Public Debt	0	0	2	3	3	1	9
Balance (NA Basis)	129	139	-65	-54	-6	268	144

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Table 15 (continued)

CHOSP's TOTAL IMPACT,
Holding Interest Rates Constant

Employment ('000)	1982	1983	1984	1985	1986	Short-Term 1982 - 83	Long-Term 1982 - 86
Total	16	55	10	-15	-11	71	56
- Agriculture	0	0	0	0	0	1	0
- Other Primary	0	1	0	0	0	1	1
- Manufacturing	5	15	3	-4	-4	20	15
- Construction	3	9	0	-3	-3	12	5
- Commercial Services	7	29	7	-7	-3	37	34
- Non-Commercial Services	0	1	0	0	0	1	1
- Public Administration and Defence	0	0	0	0	0	0	0
- Part-Time	2	7	0	-3	0	9	7

Source: The Conference Board of Canada

Notes: 1. See notes at the bottom of Table 6.

Table 16

CHRP's TOTAL IMPACT,
Holding Interest Rates Constant

	1982	1983	1984	1985	1986	Short-Term 1982 - 83	Long-Term 1982 - 86
Key Indicators							
Gross Domestic Product at Market Prices (millions 1981 $)	38	196	-32	-33	-22	234	148
CPI Inflation Rate (%)	0.00	0.00	0.01	0.00	0.00	0.00	0.02
Total Employment ('000)	0	5	4	-1	-1	6	8
90-Day Treasury Bill Rate (%)	0	0	0	0	0	0	0
Housing Starts ('000)							
Singles	0	0	0	0	0	0	0
Multiples	0	0	0	0	0	0	0
Business Residential Construction (millions 1981 $)							
New Housing	1	8	-2	-1	2	9	9
Other	32	133	-98	-11	-1	165	55
Construction Industry							
Gross Domestic Product at Factor Cost (millions 1981 $)	9	38	-18	-5	-4	47	20
Employment ('000)	0	1	0	0	0	1	1
Consumption (millions 1981 $)							
Total	14	106	18	-25	-9	120	105
Other Durables	10	60	9	-7	-4	70	67

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Table 16 (continued)

CHRP's TOTAL IMPACT,
Holding Interest Rates Constant.

	1982	1983	1984	1985	1986	Short-Term 1982 - 83	Long-Term 1982 - 86
Federal Government (millions $)							
Total Revenue	11	56	2	6	13	67	88
- Personal Income Tax	1	15	17	7	11	16	50
- Corporate Income Tax	6	16	-15	1	2	22	9
- Manuf. Sales Tax	3	13	-3	0	1	15	13
Total Current Expenditures	31	178	59	26	30	209	324
- UIC Benefits	-1	-10	-8	2	4	-11	-13
- Capital Assistance to Persons	31	182	47	0	0	213	260
- Interest on Public Debt	0	5	16	20	23	6	64
Balance (NA Basis)	-20	-123	-57	-19	-18	-143	-237
Other Levels of Government (millions $)							
Total Revenue	5	37	12	11	13	42	78
- Direct Taxes, Persons	1	12	12	4	6	13	34
- Direct Taxes, Business	2	5	-4	0	0	7	3
- Retail Sales Tax	1	16	1	-3	0	18	15
Total Current Expenditures	0	6	14	12	14	6	46
- Goods and Services	0	5	12	10	12	5	39
- Welfare Payments	0	-1	0	1	1	-1	2
- Interest on Public Debt	0	0	0	0	0	0	1
Balance (NA Basis)	4	28	-3	-2	-1	32	26

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Table 16 (continued)

CHRP's TOTAL IMPACT,
Holding Interest Rates Constant

Employment (millions $)	1982	1983	1984	1985	1986	Short-Term 1982 - 83	Long-Term 1982 - 86
Total	0	5	4	-1	-1	6	8
- Agriculture	0	0	0	0	0	0	0
- Other Primary	0	0	0	0	0	0	0
- Manufacturing	0	1	1	0	0	2	2
- Construction	0	1	0	0	0	1	1
- Commercial Services	0	3	3	0	-1	3	4
- Non-Commercial Services	0	0	0	0	0	0	0
- Public Administration and Defence	0	0	0	0	0	0	0
- Part-Time	0	1	1	0	0	1	1

Source: The Conference Board of Canada

Notes: 1. See notes at the bottom of Table 6.